CORRESPONDENCE DISTRIBUTION COVERSHEET

Author	Addressee	Correspondence No.
M. A. Wilson, Ecology	J. E. Rasmussen, RL	Incoming 9952586

Subject: REGARDING NOTICE OF CONSTRUCTION APPROVAL ORDER 97NM-551 FOR THE HANFORD SITE 1724 K BUILDING MAINTENANCE SHOP

DISTRIBUTION

Approval	Date	Name	Location	w/att
		Correspondence Control	A3-01	X
		Fluor Daniel Hanford, Inc.		
		W. D. Adair	H6-21	X
		K. A. Peterson	H6-23	X
		S. M. Price	H6-23	X
		Env. Int. LB	H6-23	X
		Waste Management Federal Services of Hanford, Inc.		
		AOP File (B.Curn)	H6-36	X
		RCRA Scan (D. Jensen)	H6-26	X

Aw/4-14-99
376-1463

A-6001-538S (02/98)

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

January 29, 1998

Mr. James E. Rasmussen, Director
Environmental Assurance, Permits,
Policy Division
Department of Energy
P.O. Box 550
Richland, WA 99352

Dear Mr. Rasmussen:

Re: Notice of Construction (NOC) Approval Order 97NM-551 for the Hanford Site 1724 K Building Maintenance Shop.

Your application for the above referenced project was received by the Department of Ecology's Nuclear Waste Program on December 17, 1997.

After reviewing and processing your application, a copy of the draft permit was sent to Mr. Art Ingle for his review and comments on December 24, 1997. Mr. Ingle discussed the draft permit with Mr. Marcel Szyszkowski on January 21, 1998. Mr. Ingle's review of the draft Approval Order resulted in his submittal of comments to the Department on January 28, 1998.

The Approval Order of this application is enclosed for your use. Failure to meet the approval conditions may result in the revocation of this permit, the issuance of Notices of Violation, the imposition of civil penalties, and other civil or criminal actions as provided for in Chapter 70.94 RCW.

If you or your staff have any questions regarding this permit, please call Mr. Marcel Szyszkowski at (360) 407-7147.

Sincerely,

Michael A. Wilson, Manager
Nuclear Waste Program

Enclosure

cc: Art Ingle, Dept. of Energy
Al Conklin, WDOH

DEPARTMENT OF ECOLOGY

IN THE MATTER OF APPROVING A NONRADIO-ACTIVE AIR EMISSIONS NOTICE OF CONSTRUCTION FOR 1724 K BUILDING MAINTENANCE SHOP FOR DEPARTMENT OF ENERGY, RICHLAND	)	APPROVAL ORDER No. 97NM-551

To: Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

On November 17, 1997, U.S. Department of Energy submitted a Notice of Construction Application for the Hanford Site 1724 K Building Maintenance Shop.

In relation to the above, the Department of Ecology (the Department), State of Washington, pursuant to RCW 70.94.152, makes the following determination:

1. The proposed construction will be in accordance with applicable rules and regulations, as set forth in chapter 173-400 WAC and 173-460 WAC, and the operation thereof, at the location proposed, will not result in ambient air quality standards being exceeded.

2. The proposed construction will not have a significant adverse impact upon the environment.

THEREFORE, IT IS ORDERED that the project as described in said Notice of Construction is approved for construction and operation provided the following conditions are met:

1.0 TYPE OF PROPOSED ACTION

This Notice of Construction is being submitted to the State of Washington Department of Ecology for establishment of a new source or emission unit for the 1724 K Building maintenance shop (shop) as required by Washington Administrative Code (WAC) 173-400, "General Regulations for Air Pollution Sources," and WAC 173-460, "Controls for New Sources of Toxic Air Pollutants." This application is for the New Source Review.

2.0 STATE ENVIRONMENTAL POLICY ACT

The potential environmental impact of the shop has been analyzed as shown on the attached "State Environmental Policy Act Environmental Checklist for the Hanford Site - 1724K Maintenance Shop." This document conforms to the requirements of the (Washington) State Environmental Policy Act of 1971.

3.0 FACILITY DESCRIPTION

3.1 Location

The shop will consist of the existing new single story metal utility building (the 1724 K Building) and its installed equipment. The building measures approximately 50 feet (ft.) X 100 ft. (5,000 square ft.) and is located in the

Hanford Site 100 K Area at Hanford coordinates N4000, W5500 (see map, Figure 1 of the NOC). The building is equipped with a ventilation system for comfort heating and cooling. The address of the facility is shown below:

U.S. Department of Energy, Richland Operations Office
Hanford Site
P.O. Box 550
Richland, Washington 99352

3.2 Function

The shop will be a non nuclear facility that will be used for routine maintenance and repair work in support of continued operations of various facilities at 100 K including future operations involving the removal of spent nuclear fuel from the basins. Shop equipment and activities that will potentially generate toxic air pollutants include:

Spray paint booth equipped with an 8,000 cubic ft. per minute (cfm) filtered exhaust fan that vents outside the building. The exhaust system will be equipped with an activated charcoal filter to control emissions of volatile organic compounds (VOCs).

Abrasive blasting in an enclosure equipped with a 405 cfm ventilation system using cloth bag filters. The unit will exhaust into the shop air space (fugitive emissions).

Woodworking equipment such as bandsaw and belt sander, that will be connected to a 2,600 cfm sawdust collection system consisting of a fan, cyclone separator, and cloth bag filter that will vent outside the building.

Arc welding with a portable welding fume collector and ventilator using a two stage electrostatic precipitator to remove particulates. The collector will exhaust into the shop air space (fugitive emissions).

Benchtop grinding and sanding (fugitive emissions).

Benchtop soldering and brazing (fugitive emissions).

Elevation views of the building and a floor plan showing interior layout of the shop are attached (Figure 2 of the NOC).

The exhaust flow rates cited here for the spray paint booth, abrasive blasting enclosure and sawdust collection system are approximate values taken from vendor literature and are included only for descriptive purposes. The Table 1 values are estimated annual mass release quantities, based on consumption estimates, not exhaust concentrations.

4.0 ESTIMATE OF EMISSIONS

4.1 Criteria Pollutants

The WAC 173-400 point source criteria pollutants that will be emitted from the shop are particulate matter and VOCs. The particulate matter will consist of sawdust generated by woodworking and VOCs will be released from paints applied in the spray booth.

Because this is a maintenance shop rather than a manufacturing facility, the equipment will not be used continuously nor will the emissions be continuous. The maximum quantity of sawdust that will be produced per year by operations in the shop is estimated to be 100 pounds (lbs). The amount of particulate matter actually emitted from the shop will be much less than the amount generated because of the abatement afforded by the sawdust collection and filtration system.

The estimated amount of annual VOC emissions is shown in Table 1 of the NOC.

All potential emissions from the shop will be controlled by local and centralized ventilation systems as described in Paragraph 5.0 below.

4.2 Toxic Pollutants

Potential toxic air pollutant (TAP) unabated and abated emissions have been estimated and are summarized in Table 1 of the NOC. Paints and solvents that will be used in the paint booth contain VOCs, some of which are classified as Class B TAPs.

Annual paint and solvent usage quantities are anticipated to be less than:

36 gallons of thinners,
100 gallons of water based paint,
10 gallons of solvent based enamel,
100, one lb. spray cans of solvent-based lacquer.

Table 1 is based on certain specific brand name paints, because they are considered representative of the types of paints that will be applied and composition data is available from the manufacturers' material safety data sheets. Table 1 is not intended to be a limitation on the use of other brand name paints of the same general type and composition.

The estimated annual emission rates for the VOC TAPs are compared with the small quantity emissions rates (SQEs) of WAC 173-460-080 as shown in Table 1. As can be seen from Table 1, the rates are many times less than the applicable SQEs.

While the estimates provided are not intended as strict consumption limits, inventory records will be kept for verification of the estimates to ensure that the Small Quantity Emission (SQE) levels will not be challenged.

5.0 EMISSION CONTROL TECHNOLOGY

5.1 Particulates

Particulate matter from welding will be controlled by a commercially available portable fume capture unit designed for welding fumes, which includes a built in two stage electrostatic precipitator (filter) that removes 98 percent of the particulates. The capture unit exhausts the filtered air back into the shop air space where it will be exhausted as a fugitive emission with the rest of the building air.

The small amount of particulate matter generated by the incidental benchtop operations of grinding and soldering is estimated to be less than ten lb. per year and as such has been determined that controls are not practical or a standard practice for this type of application.

Abrasive blasting will be done in a commercially manufactured enclosure equipped with its own ventilation and cloth bag filtration system. Manufacturers stated particulate removal efficiency for this piece of equipment is unavailable. The filtered air will be directed back into the building air space from which it will be exhausted as a fugitive emission.

Sawdust from the woodworking machinery will be collected by the process ventilation system and removed from the air stream by cyclone separator and bag filter before the air steam is exhausted to the atmosphere. Cyclone separation of larger sawdust particles, followed by removal of finer particles by bag filters, is standard practice control technology for the woodworking industry.

5.2 Volatile Organic Compounds

VOCs released from the paints and solvents will be collected by the paint booth enclosure and removed with an activated charcoal filter installed in the paint booth exhaust duct. The manufacturer of the charcoal filter reports that the filters remove 90 percent of VOCs. The charcoal filter will be examined periodically and will be replaced when it becomes loaded, following the manufacturer's recommendations. Overspray paint droplets will be removed by arrestor filters in the paint booth that are specified by the manufacturer to have an overspray removal efficiency of 95 percent. Activated charcoal filtration is standard industry control technology for removal of organic compounds from an air stream.

6.0 AMBIENT IMPACT DEMONSTRATION

The ambient impact from the shop emissions will be minimal. Particulate matter will be well controlled by confinement, and the filtration systems described in Paragraph 5.1 above. VOC TAPs will be controlled by activated charcoal filtration and the estimated emission rates of VOC TAPS, even without taking credit for attenuation by the charcoal filter, are orders of magnitude less than the WAC 173-460-080 SQE rates, as shown in Table 1. The minimal emissions meet the criteria for compliance of WAC 173-460-080(3).

Based on the estimated emission levels and the noncontinuous operations within the facility, no emission sampling/monitoring is planned.

7.0 CONCLUSION

Potential emissions of criteria and toxic air pollutants from the shop meet the requirements of WAC 173-400 and WAC 173-460 because they have minimal ambient impact (are much less than the SQEs) and are well controlled by effective best available control technology for toxics methods.

8.0 APPROVAL CONDITIONS

1. Any activities permitted under this Approval Order shall be in strict conformance with the description of the Project contained herein and the NOC Application.

All plans, specifications and other information submitted to the Department relative to this project and further documents and any further authorizations or approvals or denials in relation thereto shall be kept at the Nuclear Waste Program of the Department in the "Air Permitting" files and by such action shall be incorporated herein and made a part thereof.

Nothing in this approval shall be construed as obviating compliance with any requirements of law other than those imposed pursuant to the Washington Clean Air Act and rules and regulations thereunder. Authorization may be modified, suspended or revoked in whole or in part for cause including, but not limited to, the following:

1. Violation of any terms or conditions of this authorization;
2. Obtaining this authorization by misrepresentation or failure to disclose fully all relevant facts.

The provisions of this authorization are severable and, if any provision of this authorization, or application of any provision of this authorization to any circumstance, is held invalid, the application to any circumstance, is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.

Any person feeling aggrieved by this Order may obtain review thereof by application, within 30 days of receipt of this Order to the Washington Pollution Control Hearings Board, P. O. Box 40903, Olympia, Washington 98504-0903. Concurrently, a copy of the application must be sent to the Department of Ecology, P.O. Box 98504-7600, Olympia, WA 98504-7600. These procedures are consistent with the provisions of Chapter 43.21B RCW and the rules and regulations adopted thereunder.

Dated at Lacey, Washington this 29 day of January 1998.

PREPARED BY:

Marcel Szyszkowski, P.E.
Regulatory and Technical Support Section
Nuclear Waste Program
Department of Ecology

APPROVED BY:

Michael A. Wilson, Program Manager
Nuclear Waste Program
Department of Ecology

P:boothapr.doc